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IMPACT PROJECT

A Commonwealth Government inter-agency project in co-operation with the University of Melbourne, to facilitate the analysis of the impact of economic demographic and social changes on the structure of the Australian economy



AUSTRALIAN STUDENT STATISTICS 1966 TO 1976

by

Rowen Craigie
Industries Assistance Commission

Preliminary Working Paper No. BP-21 Melbourne January 1980

The views expressed in this paper do not necessarily reflect the opinions of the participating agencies, nor of the Commonwealth government.

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"non-departmental"¹ and whether they were simultaneously attending any other tertiary institution. Only those students who were attending solely at teachers colleges were included in the series constructed for this exercise (irrespective of their "departmental"/"non-departmental" classification). The distribution of such students amongst the five course levels had to be estimated from other information available.²

(c) TAFE

As discussed on page 18, the national TAFE student data for 1975 to 1976 are classified by "Stream of study" in the absence of a standard course/qualification classification system. The following table shows the procedure adopted to map the student data from the six "Streams of study" into the five course levels used in this exercise.

Table A2.3 - MAPPING OF TAFE STREAMS OF STUDY INTO THE FIVE COURSE LEVELS

TAFE Stream of Study	"IMPACT Course Level"
Stream 1 (Professional)	Diploma
Stream 2 (Para-professional)	Technician
Stream 3 (Apprenticeship Trades)	Trade
Stream 4 (Other Skilled)	Not Included
Stream 5 (Preparatory)	Not Included
Stream 6 (Adult Education)	Not Included

Note :

1. Only courses of more than one year's duration were allocated to the course levels used in this exercise - see page 18.

2. "Departmental" students were defined as those students studying under a State Education Department scholarship or fellowship.
See footnote 2 on previous page.

CONTENTS

	page
1. INTRODUCTION	1
2. DATA SOURCES AND PROBLEMS WITH THE PUBLISHED SERIES	10
2.1 Data Sources	10
2.2 Scope of the Data Series	12
2.3 Major Data Problems	13
2.3.1 University Student Statistics	14
2.3.2 College of Advanced Education (Including Teachers Colleges) Student Statistics	15
2.3.3 TAFE Student Statistics and Apprenticeship Statistics	16
3. SELECTED TABLES	21
4. CONCLUDING REMARKS	47
Appendix 1 : IMPACT Occupational Classification	49
Appendix 2 : Details of the Types of Courses Included in Each Course Level in the Constructed Series	50
REFERENCES	53

LIST OF TABLES(b) Colleges of Advanced Education

	page
Table 1	4
Desired Level of Disaggregation of Data on Total Students, Course Entrants and Course Completions for Each Year from 1966 to 1976	
Table 2	6
Definition of Course/Qualification Levels	
Table 3	7
Course Levels Offered By Each System	
Table 3.1.1	23
Students Completing University Courses 1966-67 to 1976-77, By Sex x Course	
Table 3.1.2	24
Students Completing University Courses 1966-67 to 1976-77, By Type of Attendance x Course	
Table 3.1.3	25
Students Completing CAE Courses 1966-1976, By Sex x Course	
Table 3.1.4	26
Students Completing CAE Courses 1966-1976, By Type of Attendance x Course	
Table 3.1.5	27
Apprenticeships Completed 1966-67 to 1975-76, By Trade Group	
Table 3.2.1	28
Total University Students 1966-1976, By Sex x Course	
Table 3.2.2	29
Total University Students 1966-1976, By Type of Attendance x Course	
Table 3.2.3	30
Total CAE Students 1966-1976, By Sex x Course	
Table 3.2.4	31
Total CAE Students 1966-1976, By Type of Attendance x Course	
Table 3.2.5	32
Total TAFE Students 1973-1976, By Sex x Course	
Table 3.2.6	32
Total TAFE Students 1973-1976, By Type of Attendance x Course	
Table 3.2.7	33
Total TAFE Students 1966-1972 (Crude Estimates), By Sex x Course	
Table 3.2.8	34
Total TAFE Students 1966-1972 (Crude Estimates), By Type of Attendance x Course	
Table 3.2.9	35
Total Apprentices 1966-1976, by Trade Group	
Table 3.2.10	36
Total University Students 1966, 1971 and 1976, By Age x Course	

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The student statistics for colleges of advanced education (including teachers colleges) for 1974 to 1976 that were published annually in Colleges of Advanced Education (see ABS (a)) were classified by five course categories (termed levels). The student statistics for colleges of advanced education (excluding teachers colleges) for 1973¹ were classified in the same manner. The following table shows the allocation of those ABS college of advanced education course categories into the five course levels adopted for this exercise.

Table A2.2 - MAPPING OF THE ABS COLLEGE OF ADVANCED EDUCATION COURSE CATEGORIES INTO THE FIVE COURSE LEVELS

ABS Course Classification	"IMPACT Course Level"
Master Degree	Higher Degree
Bachelor Degree	Bachelor Degree
Graduate Diploma	Bachelor Degree
Diploma	Diploma
Associate Diploma	Diploma

Prior to 1973 the ABS disaggregated the student statistics pertaining to colleges of advanced education (excluding teachers colleges) by field of study and not by course category. This meant that the course level distribution of these published statistics had to be estimated for this exercise.² The student statistics for teachers colleges published between 1968 and 1973 were not disaggregated by course category either. Instead, they were classified according to whether students were "departmental" or

1. See footnote 3 on page 10.

2. See page 16 for further explanation.

Appendix 2 : DETAILS OF THE TYPES OF COURSES INCLUDED
IN EACH COURSE LEVEL IN THE CONSTRUCTED SERIES

LIST OF TABLES (Continued)

<u>(a) Universities</u>		page
The annual ABS publication <u>University Statistics</u> (ABS (d)) classifies student statistics by three broad course categories, two of which have a number of sub-categories. The following table shows the allocation of these ABS university course categories to the five course levels used in this paper (as defined in Table 2).		
<u>Table A2.1 - MAPPING OF THE ABS UNIVERSITY COURSE CATEGORIES INTO THE FIVE COURSE LEVELS</u>		
ABS Course Classification	"IMPACT Course Level"	
<hr/>		
Higher Degree	Higher Degree	
- Ph. D.	Higher Degree	Table 3.3.4
- Other doctorate	Higher Degree	Table 3.3.5
- Masters	Higher Degree	
Bachelor Degree	Bachelor Degree	Table A2.1
<hr/>		
Non-Degree	Bachelor Degree	Table A2.2
- Post-graduate diploma	Bachelor Degree	
- Sub-graduate diploma or certificate ¹	Diploma	Table A2.3
- Post-graduate preliminary/qualifying ²	Not Included	
- Miscellaneous	Not Included	

Notes :

- In the first few years of the period 1966-1976 there were separate sub-categories for sub-graduate diploma courses and certificate courses.
- In the first half of the period 1966-1976 such courses were included in the "Miscellaneous" sub-category which was termed "Other".

Appendix 1 : IMPACT OCCUPATIONAL GROUPINGMAJOR GROUPS

1. Professional White Collar
2. Skilled White Collar
3. Semi-skilled and Unskilled White Collar
4. Skilled Blue Collar, Metal and Electrical
5. Skilled Blue Collar, Building
6. Skilled Blue Collar, Other
7. Semi-skilled and Unskilled Blue Collar
8. Rural Workers
9. Armed Services
10. Other (nec)

MINOR GROUPS

- | | |
|--|---|
| 1. PROFESSIONAL WHITE COLLAR | 6. SKILLED BLUE COLLAR, OTHER |
| 1 Scientists | 24 Food Trades |
| 2 Engineers | 25 Textile Trades |
| 3 Medical | 26 Printing Trades |
| 4 Societal | 7. SEMI-SKILLED AND UNSKILLED BLUE COLLAR |
| 5 Tertiary Teachers | 27 Semi-skilled Metal and Electrical |
| 6 Secondary Teachers | 28 Building |
| 2. SKILLED WHITE COLLAR | 29 Miners |
| 7 Technical Teachers | 30 Drivers |
| 8 Primary Teachers | 31 Protective Services |
| 9 Para-medical | 32 Production and Process |
| 10 Technicians | 33 Services |
| 11 Creative | 34 Labourers |
| 12 Government | 8. RURAL WORKERS |
| 13 Employers | 35 Farmers |
| 3. SEMI-SKILLED AND UNSKILLED WHITE COLLAR | 36 Farm Workers |
| 14 Clerical | 9. ARMED SERVICES |
| 15 Sales | 37 Officers |
| 16 Semi-skilled Medical | 38 Other Ranks |
| 17 Audio Visual | 10. OTHER (NEC) |
| 4. SKILLED BLUE COLLAR, METAL AND ELECTRICAL | 39 Other (nec) |
| 18 Metal Trades | |
| 19 Electrical Trades | |
| 20 Instrument Trades | |
| 5. SKILLED BLUE COLLAR, BUILDING | |
| 21 Wood Trades | |
| 22 Brick, Stone and Glass Trades | |
| 23 Painter | |

It is hoped that the data series so constructed will be of sufficient quality to support the econometric estimation of a model along the lines described by Craigie, Parham and Ryland (1979).

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1. INTRODUCTION

One of the main areas of research for the demographic-labour supply module of the IMPACT Project, BACHURROO¹, is the modelling of occupationally disaggregated labour supply. The occupational classification used in IMPACT was designed² using skill differentiation as the major criterion (see Appendix 1 for a listing of the IMPACT occupation groups). This means that, as far as possible, in each major occupation group, there is homogeneity with respect to the level of skill and that between groups only a minimum of "upward" mobility is possible in the absence of substantial retraining. Within each major occupation group, different areas of skill specialisation, related to the type of activity performed, can be identified and these define the various minor occupation groups.

Obviously in this context, the linkages between occupational supplies and training through the education systems assume a central role. The various education systems are an important determinant of the occupational distribution of labour supply in that they provide much of the input of new entrants, with varying skills, into the labour force. In addition, they are the major means (in many cases the only means) by which skill upgrading and retraining of the existing labour force can take place.

1. For an outline of BACHURROO, see Powell (1977).

2. See McIntosh (1978) and Craigie (1979).

One of the major limitations on any study of the relationships between the education systems and labour supply in Australia is data. The problems and inadequacies of Australian labour force statistics and education statistics have been discussed elsewhere.¹ However, there is a specific deficiency in this particular area with respect to data providing essential details of the recent educational history of new entrants and re-entrants to the labour force cross-classified by details of their new occupation.^{2,3} That is, there is an absence of any comprehensive time series of data pertaining to the transition from the education systems to the labour force that cross-classifies the type of occupation commenced by the type of training undertaken. Such data, if they ever become available, would provide fruitful information about the nature of the relationships between education and employment.

This paper reports the construction of several series of data from the information that is available on students who undertook some form

1. See Scherer (1978), Mumme (1978) and also TAPEC (1977), pp. 17-29.
2. The annual Australian Bureau of Statistics (ABS) publication Leavers from Schools, Universities or Other Education Institutions (ABS (b)) is concerned only with 15 to 25 year old leavers from full-time education. The data do not distinguish between those leavers who successfully obtained a qualification and those who withdrew from a course. The data that are published are only classified by the type of educational institution attended, not the type of training commenced by institution attended. The survey is based on the ABS quarterly population sample survey which only covers about two-thirds of one per cent of the total population. This particular survey is clearly unsuitable for obtaining reliable disaggregated estimates of the characteristics of such a small group (relative to the total population) as leavers from the education systems.
3. The Graduate Careers Council of Australia has conducted annual sample surveys of the first destinations of graduates from all universities since 1972 and from a selection of colleges of advanced education since 1974. See Graduate Careers of Australia (several issues). Whilst giving the numbers completing each type of course, these data are not classified by a standard occupation classification but instead are cross-classified by "type of work done" upon completion of courses. There are no similar data available on students completing courses within the technical and further education (TAFE) system.

4. CONCLUDING REMARKS

To attempt quantitative analyses of the relationships that exist between the supply of labour of various types and the education systems, a data bank on (at least) the output of the education system (and preferably the throughput as well) is required. Given the lack of panel data on the transition of persons through the education systems to the workforce and the limitations of cross-sectional Census data at a few quinquennial points in time, time series of student statistics provide the only feasible information source to support research on this topic. Unfortunately the published statistics on post-secondary education in Australia cannot be simply and readily transformed into anything approaching well defined continuous series.

The construction of the data series reported in this exercise was a time consuming and frustrating exercise due solely to the fragmented and discontinuous nature of the published statistics.

Certain data points in the series constructed are partially the product of estimation that was performed on the basis of simplifying assumptions and limited information. While deficiencies in the basic data available are only too obvious, the research strategy adopted by the IMPACT Project has been to mobilize all relevant data in an attempt to extract from them whatever information they contain about the topic under study. This approach has been motivated by two considerations :

- (i) Even low quality data often contains usable information.
- (ii) The collection of primary data is beyond the resources of the Project.

Table 3.3.5 - APPRENTICESHIPS COMMENCED 1966-67
TO 1975-76, BY TRADE GROUP

Financial Year	New Indentures Registered			Total
	Metal & Electrical	Building	Other	
1966-67	15471	5163	7334	27968
1967-68	15732	4952	7557	28241
1968-69	15885	5023	7441	28349
1969-70	18262	6251	7567	32080
1970-71	20024	6003	8708	34735
1971-72	18788	5803	8041	32632
1972-73	16972	6965	7957	31894
1973-74	22527	10377	9533	42437
1974-75	20560	6313	8663	35536
1975-76	21243	6630	8423	36296

Source : Department of Employment and Youth Affairs, Apprenticeship Statistics, AGPS, Canberra (annual issues).

Notes :

1. Trade groups are as outlined in Note 1 of Table 3.1.5 on page 27.
2. See Note 2 of Table 3.1.5.
3. The figures for new indentures registered over this period were prone to unusual variations due to administrative factors such as the adoption of new procedures which allowed the processing of a backlog of indentures awaiting registration. This accounts for some of the wild fluctuations in the above data.

of post-secondary education in Australia over the period 1966 to 1976. It is envisaged that such data will provide part of the input into the estimation of a theoretical model that has been developed (within the BACHUROO module of IMPACT) which focuses on the relationships between occupationally disaggregated labour supply and educational attainment.¹

The aim of this exercise was to assemble from published information three basic data series on total students, course entrants² and course completions³ in Australia's post-secondary education systems over the period 1966 to 1976. These post-secondary education systems are the universities, colleges of advanced education (CAEs) and technical and further education (TAFE). Australia's apprenticeship system has close links with the TAFE system, hence data pertaining to the apprenticeship system over this period are also considered in this paper.⁴ It was intended that each of the three basic series would be disaggregated and cross-classified by the characteristics described in Table 1.

1. See Craigie, Parham and Ryland (1979).
2. A course entrant is defined to be a student who enrolls in any individual course of instruction in which that student is not currently enrolled or in which that student has not deferred.
3. A course completion occurs when a student satisfies all the academic requirements of the course.
4. The vast majority of apprentices are compelled to undertake a trade course in the TAFE system as part of their indenture. However this TAFE component of an apprenticeship is often only taken in certain years of the period of indenture. Conversely, not all students undertaking trade courses are apprentices. Thus there is not a precise correspondence between student statistics for TAFE trade courses and apprenticeship statistics. Rather, they are in some sense, alternative measures of the number of people undertaking formal training.

Table 1 - DESIRED LEVEL OF DISAGGREGATION OF THE DATA ON TOTAL STUDENTS, COURSE ENTRANTS AND COURSE COMPLETIONS FOR EACH YEAR FROM 1966 TO 1976

Characteristics	Number of Categories	Description of Categories
Post-secondary Education System	3	Universities, Colleges of Advanced Education (CAE), ¹ Technical and Further Education (TAFE), ² Higher Degree, Bachelor Degree, ³ Diploma, Technician, Trade
Course or Qualification Level	5	Higher Degree, Bachelor Degree, ³ Diploma, Technician, Trade
Sex	2	Male, Female
Age	4	15-19, 20-24, 25-29, 30+
Type of Attendance	2	Full-time, Part-time ⁴

1. Includes Teachers Colleges.
2. See footnote 1 on page 3 regarding the close relationship between the apprenticeship system and the trade training component of the TAFE system. As the apprenticeship system is both administratively and conceptually distinct from all the education systems, it is not listed here as a type of education system. However, there are additional data series included in this exercise on total apprentices, new indentures and indentures completed.
3. The "Bachelor Degree" category also includes post-graduate diplomas.
4. The "Part-time" category also includes correspondence (or external) students.

Table 3.3.4 - CAE COURSE ENTRANTS 1966-1976, BY TYPE OF ATTENDANCE x COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1966	0	0	0	315	238	553	9305	3979	13284	9620	4217	13837
1967	0	0	0	463	321	784	10484	4418	14902	10947	4739	15686
1968	0	0	0	868	578	1446	11599	4748	16347	12467	5326	17793
1969	0	0	0	1223	833	2057	12674	5721	18394	13897	6554	20451
1970	0	0	0	1970	1281	3251	14411	6323	20734	16381	7604	23985
1971	2	11	13	3026	1828	4854	16528	6912	23440	19556	8752	28308
1972	6	30	36	5005	3455	8461	15762	6200	21961	20773	9685	30458
1973	8	68	76	6491	4603	11094	17113	6807	23920	23612	11478	35090
1974	11	88	99	9816	8350	18166	22002	8634	30636	31829	17072	48901
1975	31	161	192	12947	11354	24301	24303	10927	35230	37281	22442	59723
1976	36	121	157	14749	11938	26687	20932	8526	29458	35717	20585	56302

Notes :

1. See Note 1 and Note 2 of Table 3.2.3 on page 30.

Table 3.3.3 - CAE COURSE ENTRANTS 1966-1967, BY SEX × COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1966	0	0	0	341	212	553	7264	6020	13284	7605	6232	13837
1967	0	0	0	499	285	784	8216	6686	14902	8715	6971	15686
1968	0	0	0	1118	328	1446	8874	7473	16347	9992	7801	17793
1969	0	0	0	1606	451	2057	9861	8533	18394	11467	8984	20451
1970	0	0	0	2573	678	3251	11265	9469	20734	13838	10147	23985
1971	8	5	13	3864	990	4854	12693	10747	23440	16566	11742	28308
1972	25	13	36	6378	2083	8461	11509	10452	21961	17910	12548	30458
1973	48	28	76	8244	2850	11094	12185	11735	23920	20477	14613	35090
1974	82	17	99	12600	5566	18166	13781	16855	30636	26463	22438	48901
1975	158	34	192	16774	7527	24301	14493	20737	35230	31425	28298	59723
1976	129	28	157	17495	9192	26687	12093	17365	29458	29717	26585	56302

Notes :

1. See Note 1 and Note 2 of Table 3.2.3.

44.

5.

The five course/qualification levels used in this exercise are defined in the same manner as those qualification levels identified in the qualification classifications designed by the Australian Bureau of Statistics (ABS) for the 1971 and 1976 Censuses of Population and Housing. The definitions of these five course/qualification levels are given in Table 2 and are taken directly from the ABS publication "Classification of Educational Qualifications".¹

There are some post-secondary courses/qualifications that cannot be classified into these five levels. These include qualifications or awards obtained through short specialised courses related to hobbies, sport or recreation and those qualifications related to typing, shorthand and receptionist/secretarial courses. Likewise, qualifications obtained from some professional organisations cannot be classified to these five levels, e.g., Fellow of the Stock Exchange Institute (F.S.E.I.).

1. See ABS (1978). With the exception of the partition of the Bachelor Degree level described in the footnote to Table 2, these definitions are basically the same as those definitions adopted for the 1971 Census. See ABS (1972).

Table 2 - DEFINITION OF COURSE/QUALIFICATION LEVELS

Course/Qualification Level	Definition
Higher Degree	Conferred by a university or college of advanced education in recognition of substantial studies beyond the Bachelor degree level, e.g., Doctor of Philosophy (Ph.D.), Master of Economics (M.Ec.).
Bachelor Degree ¹	Conferred by a university or college of advanced education following a period of at least 3 years of equivalent full-time study, e.g., Bachelor of Arts (B.A.), Bachelor of Engineering (B.Eng.). Also includes post-graduate diplomas, which are defined as those qualifications conferred by a university or college of advanced education following the equivalent of at least one year of full-time study, with a Bachelor degree as a necessary prerequisite, e.g., Graduate Diploma Secretarial Studies (Grad.Dip.Sec.Stud.), Diploma of Education (Dip.Ed.).
Diploma ²	A level relating to qualifications obtained following substantial advanced study beyond matriculation conferred by institutions and professional associations, e.g., Diploma of Business Studies (Dip.Bus.Stud.), Teaching Certificate, Diploma of Engineering (Dip.Eng.).
Technician	A level which requires theoretical knowledge as well as practical skills, e.g., woodclassing, nursing. Certificates (other than those granted for trade level courses described below) issued by technical colleges following periods of 4 or 5 years part-time study after passing intermediate or final secondary school examination are classified as "Technician".
Trade	Formal recognition of competency in a skilled manual occupation which is usually obtained through an apprenticeship or satisfactory progress in part-time studies concurrently with practical training; also includes post-trade qualifications, e.g., plumber, fitter and turner, compositor, carpenter, hairdresser.

1. For the 1976 Census the ABS split the "Bachelor Degree" level into two levels namely "Graduate Diploma" (for post-graduate diploma qualifications) and "Bachelor Degree". But for the 1971 Census and for this exercise both these levels are combined in the one level "Bachelor Degree".

2. For the 1971 Census the qualification level "Diploma" was termed "Other Tertiary".

Source : ABS, 1976 Census of Population and Housing, "Information Paper No. 9(iv), Classification of Educational Qualifications", Catalogue No. 2115-0, Canberra, 1978.

Table 3.3.2 - UNIVERSITY COURSE ENTRANTS 1966-1976, BY TYPE OF ATTENDANCE x COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	
1966	1017	942	1959	22243	12012	34255	306	247	553	23566
1967	1159	1419	2578	19741	12704	32445	305	481	786	21205
1968	1277	1541	2818	22071	12659	34730	331	226	557	23679
1969	1485	1795	3280	24680	12798	37478	289	172	461	26454
1970	1431	1789	3220	25418	12905	38323	215	126	341	27064
1971	1573	1888	3461	26829	11961	38790	159	55	214	28561
1972	1931	2120	4051	28670	10675	39345	137	43	180	30738
1973	1863	2474	4337	29894	11175	41069	41	25	66	31798
1974	2084	2811	4895	32236	11562	43798	30	18	48	34350
1975	2167	3185	5352	33876	11636	45512	18	15	33	36061
1976	2419	3014	5433	34042	11597	45639	10	0	10	36471
Total	13201	14604	28805	14426	38105	41219	41884	42465	13904	12838
	36767	35809	72576	38105	35809	73914	41884	42465	13904	12838
	41219	14426	55645	41219	14426	55645	41884	42465	13904	12838
	41884	14604	56488	41884	14604	56488	41884	42465	13904	12838
	42465	14604	57069	42465	14604	57069	42465	42465	13904	12838
	43576	12838	56414	43576	12838	56414	43576	43576	12838	12838
	45472	13674	59146	45472	13674	59146	45472	45472	13674	13674
	48741	14391	63132	48741	14391	63132	48741	48741	14391	14391
	50897	14836	65733	50897	14836	65733	50897	50897	14836	14836
	51082	14611	65693	51082	14611	65693	51082	51082	14611	14611

Table 3.3.1 - UNIVERSITY COURSE ENTRANTS 1966-1976, BY SEX x COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1966	1725	234	1959	23155	11100	34255	256	297	553	25136	11631	36767
1967	2159	419	2578	22063	10382	32445	527	259	786	24749	11060	35809
1968	2332	486	2818	23128	11602	34730	316	241	557	25776	12329	38105
1969	2657	623	3280	24687	12791	37478	268	193	461	27612	13607	41219
1970	2652	568	3220	25175	13148	38323	184	157	341	28011	13873	41884
1971	2813	648	3461	24062	14728	38790	151	63	214	27026	15439	42465
1972	3264	787	4051	24308	15037	39345	129	51	180	27701	15873	43576
1973	3411	926	4337	24907	16162	41069	31	35	66	28349	17123	45472
1974	3762	1133	4895	26058	17740	43798	22	26	48	29842	18899	48741
1975	4096	1256	5352	26458	19054	45512	16	17	33	30570	20327	50897
1976	4096	1337	5433	26499	19140	45639	1	9	10	30596	20486	51082

Notes :

1. See Note 1 of Table 3.2.1 on page 28.

42.

7.

Some of the cross-classifications of education system x course/qualification level are not used. For example, the TAFE system does not offer any higher degree or bachelor degree courses. Table 3 shows the course levels that have been offered (or qualifications awarded) by each of the post-secondary systems at some stage over the period 1966 to 1976.

Table 3 : COURSE LEVELS OFFERED BY EACH SYSTEM¹

System	Course Level ²
Universities	Higher Degree (12%)
	Bachelor Degree (88%)
	Diploma (0.1%)
Colleges of Advanced Education (CAE)	Higher Degree (0.3%)
	Bachelor Degree (42%)
Technical and Further Education (TAFE)	Diploma (58%)
	Diploma (1%)
	Technician (54%)
	Trade (45%)

Notes:

- The allocation of particular types of courses to these "IMPACT course levels" and the relationships between the course classifications used in the primary data sources and the one above are discussed in Appendix 2.
- Figures in brackets give the percentage of total students accounted for by each course level within each system in 1976.

Unfortunately, the initial aim of this exercise could not be achieved entirely due to the poor state of the available source data. The paucity of published data available on students in the TAFE system is such that there have been no national data published at all on course entrants and course completions in the TAFE system over the period 1966-1976 and national data on total students are available only from 1973 onwards.¹ It was possible (albeit with a considerable amount of estimation) to construct a series on total students according to the schema of Table 1 (i.e., covering all three post-secondary education systems and subsequently all course/qualification levels). However, in respect of the two data series on course entrants and course completions, the schema of Table 1 proved too ambitious. For those two series there was no option but to delete the post-secondary education system TAFE and, as a consequence, the course/qualification levels "Technician" and "Trade". Hence the two series on course entrants and course completions that were constructed pertain to only two of the post-secondary education systems (namely, universities and colleges of advanced education) and only three course/qualification levels (namely, higher degree, bachelor degree and diploma).

Apart from the complete lack of data in this area, there were also some deficiencies in the data that were published. Thus the construction of the three series, at the required level of disaggregation and with a suitable degree of continuity, of necessity involved some transformation of the published data and the estimation of missing data points.

1. The limited data published by the States' TAFE authorities over the period 1966-1976 are so inconsistent and incompatible across States that they defy sensible aggregation.

Table 3.2.15 - TOTAL TAFE STUDENTS 1976, BY SEX × AGE × TYPE OF ATTENDANCE × COURSE

Age	Diploma				Technician Level			
	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time
15-19	164	36	318	8	4272	15235	3859	5528
20-24	125	209	212	82	2894	31863	965	8706
25-29	29	209	19	31	276	17673	138	2699
30 +	29	427	68	140	827	24421	551	11404
Total	347	881	618	261	8268	89192	5512	28337
Age	Trade Level				Total			
	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time
15-19	1166	79253	26	5593	5602	94524	4203	11490
20-24	65	18977	-	171	3084	51049	1177	8958
25-29	13	2356	-	-	318	20238	157	2730
30 +	26	4669	-	-	882	29516	619	11545
Total	1269	105254	26	6124	9885	195326	6155	34723

Notes: 1. See Notes 1 and 2 of Table 3.2.13.

Table 3.2.14 - TOTAL CAE STUDENTS 1976, BY SEX × AGE × TYPE OF ATTENDANCE × COURSE

Age	Higher Degree					Bachelor Degree				
	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Total	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Total
15-19	1	1	0	0	2	8178	3019	5498	616	17311
20-24	37	61	12	19	130	7012	6624	3488	1935	19059
25-29	16	105	3	19	143	1865	6118	704	1698	10386
50+	8	151	3	26	188	1206	6288	1092	2548	11133
Total	63	318	18	64	463	18261	22049	10781	6797	57888

40.

Age	Diploma					Total				
	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Total	Male Full-Time	Male Part-Time	Female Full-Time	Female Part-Time	Total
15-19	10094	2123	23213	1244	36673	18273	5143	28710	1860	53986
20-24	7137	4816	8547	2922	23423	14186	11502	12046	4877	42611
25-29	1661	3911	1515	2469	9556	3542	10135	2222	4186	20085
30+	1162	3531	2939	3830	11461	2376	9969	4034	6403	22782
Total	20054	14381	36213	10465	81113	38378	36748	47012	17326	139464

Notes :

1. See Notes 1 and 2 of Table 3.2.13.

Section 2 of this paper briefly outlines the major problems with the published data and gives the reader a general indication of the estimation that was required in order to construct the series. Section 3 presents a selection of the results. Concluding remarks are offered in Section 4.

2. DATA SOURCES AND PROBLEMS WITH THE PUBLISHED SERIES

Over the period 1966 to 1976, student data were published separately for each post-secondary system. Thus when discussing the construction of any one of the three series (e.g., total students) it is convenient to consider separately the data pertaining to each system (i.e., total university students, total CAE students and total TAFE students).

2.1 Data Sources¹

The major data source on university students for the period 1966 to 1976 is the annual Australian Bureau of Statistics (ABS) publication University Statistics Part 1 - Students (ABS (d)). Further information on some of the characteristics of students completing university courses was obtained from student destination surveys that have been conducted annually since 1972.²

For the colleges of advanced education (CAEs), the two main data sources were the annual ABS publications Colleges of Advanced Education (ABS (a)) and Teacher Education (ABS (c)).³ Additional data were obtained from reports of the Commonwealth Advisory Committee on Advanced Education, the Australian Commission on Advanced Education, the Australian Council on Awards in Advanced Education and the Council of the Victorian Institute of Colleges. The student destination surveys mentioned above also provided some further information, as did the annual handbooks of a number of individual colleges.

1. For reasons of conciseness full citations of the many publications mentioned below are given in the References section only.
2. See Graduate Careers Council of Australia (several issues).
3. Colleges of Advanced Education (ABS (a)) was first published in 1968 and then annually from 1970. Teacher Education (ABS (c)) was published annually from 1969 to 1973 after which it was effectively incorporated in the former publication.

Table 3.2.13 - TOTAL UNIVERSITY STUDENTS 1976, BY SEX × AGE × TYPE OF ATTENDANCE × COURSE

Age	Higher Degree				Bachelor Degree			
	Male	Female	Part-Time	Total	Male	Female	Part-Time	Total
15-19	2	1	1	4	27793	1790	19841	50388
20-24	1923	991	602	3544	23356	7324	12073	47306
25-29	1877	2890	498	6043	3546	6490	1898	15677
30+	1231	4589	513	7598	2087	6940	2722	17538
Total	5033	8471	1614	17589	56782	22544	36535	130910
Age	Diploma				Total			
	Male	Female	Part-Time	Total	Male	Female	Part-Time	Total
15-19	0	1	1	3	27795	1792	19843	50395
20-24	4	8	15	33	25283	8323	12690	51283
25-29	1	11	2	19	5424	9391	2398	21739
30+	1	14	2	24	3319	11543	3237	25160
Total	7	33	20	78	61822	31048	38169	148577

Notes :

1. See Note 1 of Table 3.2.1 on page 28.
2. See Note 2 of Table 3.2.12 on page 38.

Table 3.2.12 - TOTAL TAFE STUDENTS 1973, 1974, 1975 AND 1976, BY AGE x COURSE

Age	1973				1974			
	Diploma	Technician	Trade	Total	Diploma	Technician	Trade	Total
15-19	356	23708	79236	103299	621	28067	87905	116593
20-24	608	42917	15192	58717	566	41670	16811	59046
25-29	186	20922	2337	23446	231	20434	2359	23024
30 +	193	20042	4028	24263	354	32914	4765	38033
Total	1343	107589	100793	209725	1771	123086	111841	236698

Age	1975				1976			
	Diploma	Technician	Trade	Total	Diploma	Technician	Trade	Total
15-19	736	29796	90001	120533	527	28893	86398	115818
20-24	464	42899	17121	60483	629	44427	19213	64268
25-29	188	20187	2373	22748	288	20786	2369	23442
30 +	448	33801	4773	39022	663	37203	4695	42561
Total	1836	126682	114268	242786	2107	131309	112673	246090

Notes :

1. See footnote 1 on page 17.
2. Ages are measured at 30 June (1 August for 1973 only).

There exists only one source of comprehensive national data on students in the TAFE system and this pertains only to total students - not course entrants or course completions. This is the annual national TAFE statistical collection or survey, first undertaken by the Australian Committee on Technical and Further Education (ACOTAFE) in 1973 and then again in 1974 and published in their first and second reports respectively (ACOTAFE (1975 a) and (1975 b)).¹ In 1975 and 1976 similar collections were undertaken by the body that succeeded ACOTAFE, the Technical and Further Education Commission (TAFEC). The results from the 1975 collection were published in the Commission's Report for the Triennium 1977-1979 (TAFEC (1976)). The results from the 1976 collection were published by the Tertiary Education Commission (TEC), which incorporated TAFEC in 1977, in Selected TAFE Statistics 1976 (TEC (1977)). Prior to 1973, the various State education authorities responsible for the provision of TAFE published some data on their respective student populations. In general these data suffer from severe discontinuities over the period 1966 to 1972 and are highly incompatible both between States and with the national data from 1973 onwards. However as there were no alternative data sources available, some data pertaining to TAFE students in New South Wales in the years prior to 1973 were utilized for this exercise by assuming that trends in such data were indicative of national trends (see page 19). The New South Wales data came from the ABS publications Education 1972-1973 (ABS, NSW Office (1975)), Education 1974-1975 (ABS, NSW Office (1976)), and various New South Wales Year Books (ABS, NSW Office).

1. Unlike the other two post-secondary systems, there is no significant involvement of the ABS in data collection and publication for the TAFE system at a national level. This is obviously a major constraint on the quality of the available data pertaining to TAFE students.

National statistics on apprentices are available for the entire period 1966 to 1976. These statistics are compiled for the Commonwealth/State Apprenticeship Committee and published annually by the (Commonwealth) Department of Employment and Youth Affairs in Apprenticeship Statistics (see DEYA (a)).

2.2 Scope of the Data Series

The three data series on total students, course entrants and course completions that were constructed included students who were undertaking courses during the period 1966 to 1976:

- (i) at all universities and their branches (18 universities in 1976);
- (ii) at all those institutions listed in the appropriate States Grants (Advanced Education) Acts as colleges of advanced education plus the Canberra College of Advanced Education (83 in 1976) and those non-government teachers colleges (6 in 1976).

The data series on total students also included those students who were undertaking courses during the period 1966 to 1976:

- (iii) "in post-school education (other than that conducted by institutions supported through the Australian Universities Commission and the Australian Commission on Advanced Education)

Table 3.2.11 - TOTAL CAE STUDENTS 1966, 1971 AND 1976, BY AGE x COURSE

Age	1966				1971				1976			
	Higher Degree	Bachelor Degree	Diploma	Total	Higher Degree	Bachelor Degree	Diploma	Total	Higher Degree	Bachelor Degree	Diploma	Total
15-19	0	494	14991	15485	0	4066	27052	31118	2	17311	36673	53986
20-24	0	416	10904	11320	9	3702	19531	23241	130	19059	23423	42611
25-29	0	178	4114	4292	7	1481	7062	8550	143	10386	9556	20085
30 +	0	129	3296	3425	8	1089	6030	7127	188	11133	11461	22782
Total	0	1217	33305	34522	24	10337	59675	70036	463	57888	81113	139464

Notes :

1. See Note 1 of Table 3.2.3 on page 30.

2. Ages are measured at 31 December of previous year.

Table 3.2.10 - TOTAL UNIVERSITY STUDENTS 1966, 1971 AND 1976, BY AGE x COURSE

Age	1966				1971				1976			
	Higher Degree	Bachelor Degree	Diploma	Total	Higher Degree	Bachelor Degree	Diploma	Total	Higher Degree	Bachelor Degree	Diploma	Total
15-19	9	38825	519	39353	0	45483	63	45546	4	50388	3	50395
20-24	2606	25739	1379	29724	4216	40961	456	45633	3944	47306	33	51283
25-29	2165	6583	382	9130	3942	10240	126	14308	6043	15677	19	21739
30 +	2132	6641	612	9385	4300	10277	213	14790	7598	17538	24	25160
Total	6912	77788	2892	87592	12458	106960	859	120277	17589	130910	78	148577

Notes :

1. See Note 1 of Table 3.2.1 on page 28.
2. Ages are measured at 31 December of previous year.

conducted by institutions administered or maintained by a government education authority¹ (over 500 institutions in 1976).

The three data series constructed include only those students at the above institutions who were undertaking courses that could be allocated sensibly to the five-way course classification given in Table 1. For example, students doing single subjects at universities and colleges of advanced education were not included and neither were those students doing adult education courses offered by the TAFE system. The courses which were included/excluded from those five course levels are outlined in Appendix 2.

2.3 Major Data Problems

Over the period 1966 to 1976, the Australian post-secondary education systems were in a state of quite dramatic administrative and functional change. Each system was administered by a completely separate authority or number of authorities. The participation of the Australian Bureau of Statistics, the national statistical agency, in the data collection for each system over this period varied from continuous involvement in the case of the universities to no involvement at all in the case of TAFE. Thus the available published data on students in the post-secondary systems for this period comes from a number of sources which have quite different (and changing) methods of classification and levels of disaggregation. Complete and continuous data series at the level of disaggregation given in Table 1 cannot be obtained directly from the published statistics. As such, some

1. This definition of TAFE is taken from the 1975 terms of reference of the Australian Committee on Technical and Further Education. See ACOTAFE (1975 (a)). The Tertiary Education Commission now incorporates the functions of the three formerly independent post-secondary commissions.

manipulation of the published data and the estimation of missing data points were necessary for this exercise. Moreover, over this period, published data simply are not available at all on course entrants and course completions in the TAFE system.

Although the completion of data series by estimation obviously is not desirable, it was unavoidable given the deficiencies in the published sources. However, it should be noted that, with the important exceptions of the points discussed in Sections 2.3.1 to 2.3.3 below, a large part of the estimation and manipulation of the published data involved only the less significant characteristics (from the proposed modelling viewpoint) of type of attendance and age.¹ Most of the operations performed generally left the important margin totals (e.g., the numbers of male and female university students completing bachelor degrees) as published. The following brief description sets out the major problem areas encountered in constructing the data series. Again, for convenience, these problems are discussed separately for each of the post-secondary systems, since the data are likewise published on this basis.

2.3.1 University Student Statistics

The data on university students published by the ABS required less manipulation than the published data pertaining to the other two post-secondary systems. This undoubtedly reflects the established role of universities in post-secondary education, the fact that they were administered at a national level over the entire period 1966 to 1976 and the involvement of the ABS in university data collection and publication since 1939. The construction of the series of university course entrants, however, entailed some transformation of the published data for the years 1966 to

1. For example, the ABS has never published any data on the age distribution or full-time/part-time distribution of students completing courses at universities and colleges of advanced education. Such distributions had to be estimated from (limited) information obtained from other sources - see Graduate Careers Council (annual issues).

Table 3.2.9 - TOTAL APPRENTICES 1966-1976,
BY TRADE GROUP

As at 30 June	Total Apprentices in Training				Total
	Metal & Electrical	Building	Other		
1967	57564	17675	23299		98538
1968	59323	18388	24643		102354
1969	59644	18614	25411		103669
1970	59415	19145	25262		103822
1971	63819	20694	26456		110969
1972	64909	21825	26238		112972
1973	66267	23976	26421		116664
1974	72948	29733	28691		131372
1975	72865	29431	29603		131899
1976	75034	29777	29864		134675

Source : Department of Employment and Youth Affairs, Apprenticeship Statistics, AGPS, Canberra (annual issues).

Notes :

1. Trade groups are outlined in Note 1 of Table 3.1.5 on page 27.
2. Data on total apprentices in NSW are estimates only. The DEYA has recently changed the method of obtaining such estimates but as yet no revisions of the erroneous estimates for 1967-1976 are available - see page 19. There was no estimate published for total apprentices in NSW for 1966. However using the now superseded method of estimation, an estimate of 25,952 apprentices in NSW in 1966 is obtained. This estimate implies a total of 92,662 apprentices in training in Australia as at 30 June 1966.
3. See Note 2 of Table 3.1.5.
4. Note 3 of Table 3.3.5 should also be kept in mind when using the data in this Table.

Table 3.2.8 - TOTAL TAFE STUDENTS 1966-1972 (CRUDE ESTIMATES), BY TYPE OF ATTENDANCE × COURSE

Year	Diploma			Technician			Trade			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1966	871	487	1358	6279	75631	81910	887	96147	97034	8037	172265	180302
1967	809	453	1262	6442	77748	84190	791	96627	97418	8042	174828	182870
1968	707	396	1103	6710	80081	86791	773	94455	95228	8190	174932	183122
1969	649	363	1012	7138	84565	91703	825	93243	94068	8612	178171	186783
1970	660	372	1032	7806	90908	98714	700	90791	91491	9166	182071	191237
1971	728	411	1139	8325	96908	105233	767	93787	94554	9820	191106	200926
1972	715	404	1119	8466	96521	104987	519	96038	96557	9700	192963	202663

34.

Note :

1. See pages 19-20.

15.

1973 in order to remove a discontinuity in the published series of course entrants between 1973 and 1974, which was a consequence of a change by the ABS in the measurement/definition of students commencing courses.

2.3.2 College of Advanced Education (Including Teachers Colleges) Student Statistics

The involvement of the ABS in data collection for the colleges of advanced education and teachers colleges did not commence until 1968. Due to the very limited statistics published prior to 1968 on course entrants and course completions at CAEs, some estimation was required to complete the CAE component of these two series for the two years 1966 and 1967. Essentially, this involved the extrapolation of the relevant data pertaining to 1968 and later years backwards through time.

In mid-1973 the majority of teachers colleges were granted college of advanced education status for the first time. Thus between 1968 and 1973 the ABS published the student data for teachers colleges separately from the student data for colleges of advanced education. Some transformation of the published data on teachers college students over this period 1968 to 1973 was necessary to achieve comparability both with the latter data and with the "combined" data published from 1974 onwards.¹

It was not until 1974 that the ABS data on CAE students (including teachers college students) were disaggregated by course level

1. Prior to 1974 the student data from the teachers colleges excluded specialist or extension courses being undertaken by practising or newly qualified teachers. These were mostly courses in areas like remedial teaching, migrant English, etc..

(e.g., bachelor degree, diploma, etc.).^{1,2} Thus for each of the three series, the course level distribution of students attending CAEs (and teachers colleges) from 1966 to 1973 had to be estimated. This was done using information on:

- (i) the timing of the introduction of new course levels (e.g., when the first degree courses were offered),
- (ii) the timing of and the number of the first "crop" of graduates in a new course level,
- (iii) the number of students enrolled in individual courses of instruction,

in conjunction with the known course level distribution in 1974.

This information was obtained from various annual reports of the Australian Commission on Advanced Education, the Australian Council on Awards in Advanced Education and the Council of the Victorian Institute of Colleges plus the handbooks of a selection of individual colleges.

2.3.3 TAFE Student Statistics and Apprenticeship Statistics

The complete lack of data pertaining to course entrants and course completions in the TAFE system has already been discussed.

In addition, the estimation involved in the construction of the TAFE component of the series on total students was considerable. This was unavoidable and arose out of the following major problems with the data on TAFE students:³

1. The ABS data for 1973 on CAE students (excluding teachers college students) were also disaggregated by course level.
2. Prior to that time the published data had only been disaggregated by field of study (e.g., agriculture). This change followed the release in 1972 of the first report of the Australian Council on Awards in Advanced Education.
3. See also ACOTAFE (1975a), pp. 243-245, TAFEAC (1976), pp. 165-166 and TAFEAC (1977), pp. 18-21.

Table 3.2.7 - TOTAL TAFE STUDENTS 1966-1972 (CRUDE ESTIMATES), BY SEX x COURSE

Year	Diploma		Technician		Trade		Total				
	Male	Female	Male	Female	Male	Female	Male	Female			
1966	547	811	1358	74789	7121	81910	91609	5425	97034	166945	180302
1967	508	754	1262	77033	7157	84190	92251	5167	97418	169792	182870
1968	444	659	1103	78496	8295	86791	90177	5051	95228	169117	183122
1969	407	605	1012	82656	9047	91703	88669	5399	94068	171732	186783
1970	425	607	1032	87203	11511	98714	86591	4900	91491	174219	191237
1971	493	646	1139	92260	12973	105233	89189	5365	94554	181942	200926
1972	539	580	1119	91910	13077	104987	91775	4782	96557	184224	202663

Note :

1. See pages 19-20.

Table 3.2.5 - TOTAL TAFE STUDENTS 1973-1976, BY SEX × COURSE

Year	Diploma			Technician			Trade			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1973	647	696	1343	93636	13953	107589	95538	5255	100793	189821	19904	209725
1974	870	902	1771	98435	24651	123086	104723	7117	111841	204028	32670	236698
1975	1034	803	1836	96702	29981	126682	107100	7168	114268	204835	37951	242786
1976	1228	879	2107	97460	33849	131309	106523	6150	112673	205211	40878	246090

Notes :

1. See footnote 1 on page 17.

Table 3.2.6 - TOTAL TAFE STUDENTS 1973-1976, BY TYPE OF ATTENDANCE × COURSE

Year	Diploma			Technician			Trade			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1973	858	485	1343	8558	99031	107589	529	100264	100793	9945	199780	209725
1974	971	800	1771	9458	113628	123086	979	110862	111841	11408	225290	236698
1975	1017	819	1836	13761	112921	126682	1196	113072	114268	15974	226812	242786
1976	965	1142	2107	13780	117529	131309	1295	111378	112673	16040	230049	246090

Notes :

1. See footnote 1 on page 17.

(i) There is no standardized course accreditation system for TAFE; thus data are not classified according to easily recognisable and accepted course/qualification levels (e.g., degrees, diplomas, etc.).

(ii) TAFE courses vary in length from less than 25 hours to up to four full-time years.

(iii) TAFE courses do not follow an established academic year and hence problems arise in setting a reference date at which to measure the stock of students.¹

(iv) The first national statistical collection of TAFE students was not undertaken until 1973.

(v) The data published prior to 1973 by the State education authorities responsible for the provision of TAFE are incompatible both between States and with the national TAFE data for 1973 onwards and hence are of limited use at a disaggregated level.

All these factors are a function of the unique and complex nature of the TAFE system. The lack of involvement by the ABS in TAFE data collection over this period is another reason for the limited amount and comparatively poor quality of TAFE data.

1. The national TAFE student statistics published for 1973-1976 pertain to the total number of enrolments recorded over (approximately) a nine month period in each year, rather than the number of enrolments at a fixed date each year.

In the absence of a standardized course classification/ accreditation system in TAFE, the national data published for 1973-1976 were classified by "Stream of study" - a classification that grouped together courses with similar academic functions, e.g., preparatory. Amongst the courses in a particular "Stream" there is extreme variation in course lengths and prerequisites and there is no uniformity among the titles of awards granted on completion of the courses. A mapping from these six "Streams of study" into the five course levels used in this exercise was developed and is outlined in Appendix 2. This mapping attempts to exclude those TAFE courses that cannot realistically be considered to come under the definitions of the five course level categories given in Table 2, e.g., it excludes adult education courses. To overcome the problem of very short courses being allocated (erroneously) to any of the course level categories, it was decided to include only those TAFE courses of more than one year's duration.¹ The only available source of information which disaggregated students in each "Stream" by the duration of their course was some unpublished data from the 1976 national TAFE survey (TEC (1977)). Hence it was assumed that, within each "Stream", the partitioning of students observed in 1976 also held for 1973, 1974 and 1975.

1. Since approximately 95 per cent of students in TAFE courses are part-time, this is equivalent to including only courses of one year's full-time study or greater. This not only brings the TAFE courses more closely into line with the courses offered by the universities and CAEs included in this exercise but also excludes many courses that do not satisfy the definitions of the five course levels given in Table 2.

Table 3.2.4 - TOTAL CAE STUDENTS 1966-1976, BY TYPE OF ATTENDANCE x COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1966	0	0	0	647	570	1217	20512	12793	33305	21159	13363	34522
1967	0	0	0	977	879	1856	23506	14139	37645	24483	15018	39501
1968	0	0	0	1782	1493	3275	26552	15384	41936	28334	16877	45211
1969	0	0	0	2425	2119	4544	29599	17198	46797	32024	19317	51341
1970	0	0	0	3821	3172	6993	33640	18654	52294	37461	21826	59287
1971	4	20	24	5741	4597	10337	38946	20729	59675	44691	25345	70036
1972	9	37	46	9073	8278	17350	42473	20011	62485	51555	28326	79881
1973	11	80	91	11759	10846	22605	47100	22096	69196	58870	33022	91892
1974	23	184	207	18123	18699	36822	51288	24881	76169	69434	43764	113198
1975	56	280	336	23818	23916	47734	56717	25825	82542	80591	50021	130612
1976	81	382	463	29042	28846	57888	56267	24846	81113	85390	54074	139464

Note :

1. See Notes 1 and 2 of Table 3.2.3 on page 30.

Table 3.2.3 - TOTAL CAE STUDENTS 1966-1976, BY SEX × COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1966	0	0	0	930	287	1217	20300	13005	33305	21230	13292	34522
1967	0	0	0	1454	402	1856	22834	14811	37645	24288	15213	39501
1968	0	0	0	2678	597	3275	25121	16815	41936	27799	17412	45211
1969	0	0	0	3720	824	4544	27554	19243	46797	31274	20067	51341
1970	0	0	0	5716	1277	6993	30469	21825	52294	36185	23102	59287
1971	18	6	24	8458	1879	10337	34327	25348	59675	42803	27233	70036
1972	30	16	46	13798	3552	17350	34559	27926	62485	48387	31494	79881
1973	61	30	91	17739	4866	22605	36797	32399	69196	54597	37295	91892
1974	146	61	207	27043	9779	36822	36798	39372	76169	63986	49212	113198
1975	265	71	336	34575	13159	47734	36597	45945	82542	71437	59175	130612
1976	381	82	463	40310	17578	57888	34435	46678	81113	75126	64338	139464

Notes :

- The reference dates for the statistics on total students and course entrants at CAEs (including teachers colleges) were as follows:
 - 1966-1973 : at various dates through to August
 - 1974-1976 : 30 April.
- These figures also include those students who enrolled in second semester.

30.

19.

The national TAFE data for 1974 to 1976 are in terms of numbers of enrolments rather than numbers of students and thus had to be transformed to adjust for multiple enrolments by individual students. Here again, the only information available on the propensity of multiple enrolments by students came from unpublished data from the 1976 national TAFE survey. Some of the other transformations of the national TAFE data that were performed were to :

- adjust for the earlier reference date of the 1973 TAFE statistics;
- adjust for the deficiencies in the coverage of TAFE courses offered in Australia by the 1973 and 1974 statistical collections;
- map the age classification used in the published data to that adopted for this exercise.

Of the data published by individual State TAFE authorities over the period 1966 to 1972, it was considered that only the data pertaining to TAFE in New South Wales had both reasonable comparability with the classifications adopted for the national data collections from 1973 onwards¹ and an adequate degree of coverage, continuity and disaggregation. In addition, TAFE students in NSW accounted for approximately 35 per cent of the total number of TAFE students in Australia in 1973 that were enrolled in courses included in this exercise. Thus it was assumed that the known growth rates (in the various categories) of students in NSW over the period 1966 to 1972 were equivalent to the (corresponding) unknown growth rates in all TAFE

1. See ACO/TAFE (1975a), p.248.

students in Australia over the same period. This method of obtaining estimates of total TAFE students for 1966 to 1972, was considered the most preferable of the (crude) techniques available for generating the required TAFE student data, without becoming involved in a massive and daunting State-by-State data collation and manipulation exercise.

For the purposes of some labour market analyses however (including the estimation of the theoretical model),¹ it may be possible to augment or even replace the data on students in trade courses by utilizing an alternative series of trade training statistics, namely apprenticeship statistics. Series have been published on the numbers of total apprentices, new indentures registered, and indentures completed in each year of the period 1966 to 1976. These series are based on statistical returns provided by the apprenticeship authority of each State and Territory. Each series suffers from a number of quite peculiar fluctuations which are caused by administrative factors such as changes in the procedures used by the individual State apprenticeship authorities in the registering of indentures. In addition to these unusual variations in each series, there are a number of problems with the coverage and continuity of the NSW apprenticeship data.² These problems are currently under investigation by the Department of Employment and Youth Affairs. In the meantime it should be kept in mind that there are deficiencies in the NSW component of the published series and that (hopefully) revisions may be forthcoming.

1. See Craigie, Parham and Ryland (1979).

2. For example, the data published on total apprentices in NSW for the period 1966-1976 are only estimated by the apprenticeship authorities. From 1977 the method of estimation of the total number of apprentices in NSW was changed, as the superseded method of estimation was found to "preclude figures of major importance" - see DEYA (1979) (a), p.5. Unfortunately the published estimates for 1966-1976 have not been revised as yet, despite their dubious interpretation given the above change. Thus the current published figures show an apparent 26 per cent decline in the total number of apprentices in NSW between 1976 and 1977.

Table 3.2.2 - TOTAL UNIVERSITY STUDENTS 1966-1976, BY TYPE OF ATTENDANCE x COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total			
1966	3292	3620	6912	50821	26967	77788	1570	1322	2892	55683	31909	87592
1967	4024	4440	8464	52741	28120	80861	1163	1425	2588	57928	33985	91913
1968	4276	4936	9212	57497	29594	87091	1148	936	2084	62921	35466	98387
1969	4662	5873	10535	62512	31605	94117	1151	688	1839	68325	38166	106491
1970	4743	6800	11543	67784	32902	100686	860	509	1369	73387	40211	113598
1971	5179	7279	12458	73212	33748	106960	634	225	859	79025	41252	120277
1972	5258	7777	13035	77394	34019	111413	550	171	721	83202	41967	125169
1973	5261	8516	13777	80082	35148	115230	164	102	266	85507	43766	129273
1974	5804	9458	15262	86285	36433	122718	154	96	250	92243	45987	138230
1975	6214	10462	16676	90175	36511	126686	88	78	166	96477	47051	143528
1976	6647	10942	17589	93317	37593	130910	27	51	78	99991	48586	148577

Table 3.2.1 - TOTAL UNIVERSITY STUDENTS 1966-1976, BY SEX × COURSE

Year	Higher Degree			Bachelor Degree			Diploma			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1966	5932	980	6912	56391	21397	77788	1440	1452	2892	63763	23829	87592
1967	7128	1336	8464	58174	22687	80861	1354	1234	2588	66656	25257	91913
1968	7744	1468	9212	61494	25597	87091	1078	1006	2084	70316	28071	98387
1969	8807	1728	10535	65760	28357	94117	1065	774	1839	75632	30859	106491
1970	9643	1900	11543	69353	31333	100686	739	630	1369	79735	33863	113598
1971	10315	2143	12458	71587	35373	106960	605	254	859	82507	37770	120277
1972	10704	2331	13035	73056	38357	111413	518	203	721	84278	40891	125169
1973	11187	2590	13777	74564	40666	115230	124	142	266	85875	43598	129273
1974	12120	3142	15262	77580	45138	122718	117	133	250	89817	48413	138230
1975	13044	3632	16676	78266	48420	126686	76	90	166	91386	52142	143528
1976	13504	4085	17589	79326	51584	130910	40	38	78	92870	55707	148577

Note :

1. The reference dates for the statistics on total students and course entrants at universities were as follows :
 - (i) 1966-67 - 31 July ;
 - (ii) 1968-69 - 30 June ;
 - (iii) 1970-71 - 30 April .

It is not considered that these changes have introduced noticeable discontinuities.

3. SELECTED TABLES

21.

This section contains only a small range of the many possible cross-classifications of each of the three series on total students, course completions and course entrants for the period 1966 to 1976. The following tables have been selected because they include the more important characteristics from the total set given in Table 1 (from the point of view of the IMPACT Project). Users of these tables should certainly be aware of the major deficiencies in the data that were discussed in the previous section.¹ There were numerous minor manipulations required to construct the series for the full cross-classification illustrated in Table 1 that (for the sake of conciseness) were not mentioned in Section 2.3.

The following tables are presented in three groupings. The first grouping of tables are all numbered "3.1.x" and have been extracted from the series constructed on course completions, the second are all numbered "3.2.x" and have been extracted from the total students series and the third grouping are all numbered "3.3.x" and have been extracted from the course entrants series. Due to the separate publication of data for each post-secondary education system it is convenient to consider each of the three series (total students, course completions and course entrants) as being formed by the simple aggregation of three component series. Each "component" series pertains to one of the three post-secondary education systems, e.g., the series on total students is formed by the

1. In addition, users of the tables should consult Appendix 2.

aggregation of the three component series of total university students, total CAE students and total TAFE students,¹ Hence within the one grouping of tables, information for each education system is presented separately. Any very small discrepancies in the "total" columns of these tables (usually only #1) are due to rounding.

Table 3.1.5 - APPRENTICESHIPS COMPLETED 1966-67
TO 1975-76, BY TRADE GROUP

Financial Year	Indentures Completed			Total
	Metal & Electrical	Building	Other	
1966-1967	9377	2665	5029	17071
1967-1968	11311	3253	4807	19371
1968-1969	12823	4048	4798	21669
1969-1970	15694	4845	5896	26435
1970-1971	12848	3514	5587	21949
1971-1972	14846	3962	5913	24721
1972-1973	13044	4095	5723	22862
1973-1974	12893	3716	5565	22174
1974-1975	17133	5237	5640	28010
1975-1976	15402	4885	5896	26183

Source : Department of Employment and Youth Affairs, Apprenticeship Statistics, AGPS, Canberra (annual issues).

Notes :

1. In the published data seven trade groups are identified corresponding to the categories outlined in DEYA (1977). These have been aggregated into the three groups in the table above in the following manner:

- (i) Metal, Electrical, Vehicle
- (ii) Building
- (iii) Printing, Food, Other.

They have been aggregated in this manner to broadly correspond with the three IMPACT skilled blue collar occupation groups (see Appendix 1).

2. NSW data for apprenticeships completed include trainee apprentices whereas the data for new apprentices and total apprentices in NSW excludes trainees - see DEYA (1979) (a), p.3.

3. Over this period the average length of an apprenticeship was reduced from five years to four years. This has affected the above data.

1. In the case of the two series course completions and course entrants there are only two component series (pertaining to universities and CAEs) - see page 8.

Table 3.1.4 - STUDENTS COMPLETING CAE COURSES 1966-1976, BY TYPE OF ATTENDANCE × COURSE

For Year Ended 31 December	Higher Degree			Bachelor Degree			Diploma			Total		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1966	0	0	0	145	119	264	5555	2992	8547	5700	3111	8811
1967	0	0	0	208	171	379	5868	3160	9028	6076	3331	9407
1968	0	0	0	279	229	508	6200	3338	9538	6479	3567	10046
1969	0	0	0	378	310	688	6650	3581	10231	7028	3891	10919
1970	0	0	0	600	453	1053	6778	3649	10427	7378	4102	11480
1971	0	0	0	831	601	1432	6830	3677	10507	7661	4278	11939
1972	1	0	1	1248	1059	2307	8536	4205	12741	9785	5264	15049
1973	1	0	1	2323	1978	4301	9964	4270	14234	12288	6248	18536
1974	4	1	5	2861	2749	5610	10273	4616	14889	13138	7366	20504
1975	11	6	17	3838	3542	7380	12263	5009	17272	16112	8557	24669
1976	14	22	36	4797	4428	9225	13911	5682	19593	18722	10132	28854

Note :

1. See footnote 1 on page 14.

Table 3.1.1 - STUDENTS COMPLETING UNIVERSITY COURSES 1966-67 TO 1976-77, BY SEX × COURSE

For Year Ended 30 June	Higher Degree			Bachelor Degree			Diploma			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1967	906	135	1041	8632	3778	12410	648	367	1015	10186	4280	14466
1968	1144	152	1296	9619	4524	14143	617	411	1028	11380	5087	16467
1969	1214	193	1407	10912	5409	16321	741	338	1079	12867	5940	18807
1970	1407	206	1613	11276	5263	16539	556	322	878	13239	5791	19030
1971	1598	257	1855	12311	6047	18358	526	243	769	14435	6547	20982
1972	1803	245	2048	13371	7446	20817	484	234	718	15658	7925	23583
1973	1971	340	2311	14723	8557	23280	458	138	596	17152	9035	26187
1974	1782	299	2081	15663	9418	25081	140	100	240	17585	9817	27402
1975	2011	345	2356	15821	10093	25914	120	80	200	17952	10518	28470
1976	2205	411	2616	16580	10617	27197	90	60	150	18875	11088	29963
1977	2252	483	2735	16455	11423	27878	30	30	60	18737	11936	30673

Table 3.1.2 - STUDENTS COMPLETING UNIVERSITY COURSES 1966-67 TO 1976-77, BY TYPE OF ATTENDANCE * COURSE

For Year Ended 30 June	Higher Degree			Bachelor Degree			Diploma		
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
1967	611	430	1041	9467	2943	12410	614	401	1015
1968	751	545	1296	10864	3279	14143	668	360	1028
1969	799	608	1407	12611	3710	16321	704	375	1079
1970	901	712	1613	12890	3649	16539	612	266	878
1971	1002	853	1855	14442	3916	18358	548	221	769
1972	1071	977	2048	16443	4374	20817	540	178	718
1973	1204	1107	2311	18743	4537	23280	479	117	596
1974	1064	1017	2081	20020	5061	25081	201	39	240
1975	1188	1168	2356	20893	5021	25914	154	46	200
1976	1292	1324	2616	22073	5124	27197	101	49	150
1977	1348	1387	2735	22644	5234	27878	36	24	60
Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total
	14466	3774	10692	16467	4184	12283	14114	4693	4990
	18807	4627	19030	14403	4990	15992	18054	5529	23583
	26187	20426	5761	20426	6117	27402	21285	6235	28470
	27402	6117	27402	22235	6235	28470	23466	6497	29963
	30673	6645	30673	24028	6645	30673	23466	6497	29963

Note :

1. See footnote 1 on page 14.

Table 3.1.3 - STUDENTS COMPLETING CAE COURSES 1966-1976, BY SEX * COURSE

For Year Ended 31 December	Higher Degree			Bachelor Degree			Diploma		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1966	0	0	0	131	133	264	3463	5034	8547
1967	0	0	0	210	169	379	3740	5288	9028
1968	0	0	0	307	201	508	4039	5499	9538
1969	0	0	0	450	238	688	4514	5717	10231
1970	0	0	0	696	357	1053	4853	5574	10427
1971	0	0	0	928	504	1432	4748	5759	10507
1972	0	1	1	1329	978	2307	5635	7106	12741
1973	1	0	1	2610	1691	4301	6237	7997	14234
1974	4	1	5	3444	2166	5610	6245	8644	14889
1975	16	1	17	4474	2906	7380	6956	10316	17272
1976	26	10	36	5686	3539	9225	7283	12310	19593
Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	11446	13223	24669	11446	13223	24669	12995	15859	28854